

Application No. 10/781,138
Amendment Dated: January 9, 2007
Reply to Office Action of September 6, 2006

Remarks:

Claims 1-6 of the non-elected group of claims are being canceled. This amendment responds to the rejected of elected claims 7-20. Additional claims 21-32 have been added.

Objections and Rejections Based on Formalities:

Objection to inconsistent terminology and numbering in the specification has been overcome by amendments to the specification.

Rejection of claim 20 under 35 U.S.C. §112, second paragraph, for insufficient antecedent basis has been overcome by amendment to the claim.

This application describes an invention that provides an orthodontic appliance delivery system and method by which orthodontic appliances, for example orthodontic brackets, are stored in bulk to facilitate in the setup of individual orthodontic cases, for example by arrangement of brackets on a setup tray for placement on a patient's teeth, without requiring reorientation of the brackets when setting up the case. The elected claims of the present application claim an organizer and a bulk appliance package for the described system and method.

While no single prior art reference discloses an orthodontic appliance delivery system and method by which appliances are transferred from bulk storage to individual case setup without the need for such reorientation, original claims 7, 8 and 13 to the subcombination orthodontic organizer have been rejected as being anticipated by either Georgakis et al. U.S. Patent No. 4,898,276 or Brown U.S. Patent No. 4,191,291. Original claims 16, 17 and 20 to the subcombination orthodontic appliance package have been rejected as being anticipated by either Chester et al. U.S. Patent No. 5,350,059 or James U.S. Patent No. 5,221,202. While none of these references fulfills any of the objectives of the overall system and method of the present invention, the rejections are based on literally reading rejected claim language of the subcombination claims on structure disclosed in the references.

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In response, the pending elected claims of the application, particularly the independent claims, have been amended to move them further from the reach of a rejection as anticipated by any single reference. Each of the three independent claims, claims 7 and 16 and new claim 29, now recites at least one feature that is absent from any single reference, which is discussed below. This overcomes the rejections under 35 U.S.C. §102(b), but leads to the question of whether the claims, as amended, are patentable under 35 U.S.C. §103(a). The unobviousness of the claimed novel subcombinations is also discussed below. It is submitted that, because no prior art teaches the need to organize bulk orthodontic appliances for setting up individual cases on a set-up tray without the need to reorientate the appliances in transfer from a bulk supply to the set-up tray, only random, arbitrary and unmotivated modifications of the prior art could produce the claimed invention. As such, the novel claimed subcombinations that are designed to achieve the novel objective and function of the system are not obvious to one skilled in the art.

Rejections under 35 U.S.C. §102(b):

Independent claim 7 covers an orthodontic appliance organizer specifically configured for storing orthodontic appliances in bulk and facilitating the setup of individual orthodontic cases without reorienting the appliances in transfer from a bulk supply thereof to a setup tray. The organizer includes an organizer tray having a set-up tray support with structure to restrain a set-up tray in a given fixed orientation relative. The organizer tray also has a plurality of holders that are situated on the organizer tray so as to define a predetermined orientation with respect to a set-up tray, with the holders each having structure for holding a plurality of orthodontic appliances in the same predetermined fixed orientation on the organizer tray. As a result, the appliances are held in an orientation on the organizer tray for transfer to a set-up tray with minimal reorientation of the appliance.

Georgakis et al. disclose a compartmented box with an orthodontic set-up tray area and a plurality of bins (compartments, depressions, or cavities) that hold loose bulk brackets, each bin holding brackets for a particular tooth. Brackets are removed individually from the bin and placed on the set-up tray. While the walls of the bins might somewhat affect the orientations of the

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brackets, the orientations of the brackets in the bins are arbitrary or random and can change, and are not fixed or predetermined. As the patent states [col. 1, lines 46-49] a lid is necessary to prevent loss or intermixing of separately stored brackets. Therefore, Georgakis et al. do not disclose an appliance organizer tray having a plurality of holders with structure for holding a plurality of orthodontic appliances in a the same predetermined fixed orientation on the organizer tray. Consequently, appliances are not held for transfer to a setup tray that is in the given fixed orientation on the organizer tray without the need for substantial reorientation.

Brown discloses a general dental tool holder which is cited as being capable of supporting orthodontic appliances in a restricted orientation, but it does not disclose supporting orthodontic appliances in a restricted orientation, and it does not have holder structure that is situated so as to define any particular orientation. Using Brown to orient appliances for transfer anywhere without reorientation would require the user to carefully adjust the orientation of appliances being loaded onto the Brown device. Brown's holders do not provide any structure that defines a predetermined fixed orientation to appliances held thereon.

The references do not contain each and every element recited in the claims, the rejection of claims 7, 8 and 13, as amended. Therefore, the rejection of claims 7, 8 and 13 under 35 U.S.C. §102(b) should be withdrawn.

Claim 16 covers an orthodontic appliance package for use in an organizer system to present a bulk supply of orthodontic appliances in a fixed predetermined orientation for transfer to a setup tray without substantial reorientation. The package comprises a carrier having a plurality of appliance constraining elements each supporting one of a plurality of substantially identical orthodontic appliances on the carrier. A cover is attached to the carrier to cover the plurality of appliances in each of the appliance constraining elements, and is removable from the carrier to expose each of the plurality of appliances for removal. The appliance constraining elements constrain the appliances in the same orientation relative to the carrier, and snugly hold the appliances when the cover is removed. Guide structure is provided that fixes the orientation of the package relative to an organizer tray when put on the organizer tray to thereby present the appliances in the predetermined

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orientation in relation to the organizer tray. Neither Brown nor Chester have a cover covering a plurality of appliances that can be opened to expose a plurality of appliances at the same time. Brown does not hold the appliances snugly, as they are loose in their compartments and need the cover to hold them in.

New claim 29 also covers an orthodontic appliance package for use in an organizer system to present a bulk supply of orthodontic appliances in a fixed predetermined orientation for transfer to a setup tray without reorientation. The package includes an elongated carrier having a base with a planar upwardly facing surface having an elongated recess extending downwardly from the planar upwardly facing surface. The recess has a plurality of cavities therein arranged on a longitudinal centerline of the elongated recess, each adapted to receive and to snugly but releasably hold an orthodontic appliance. A flat flange that extends outwardly in a plane along sides of a recess. A tab handle is formed at one end of the flange, and a pair of straight parallel edges extend along opposite transverse sides to guide and support the package in an organizer tray. Orthodontic brackets are packaged in the cavities with their bases facing down and oriented with their occlusal edges facing in the same direction along the longitudinal centerline of the recess. The brackets have substantially identical configurations for bonding to a specific one of a patient's teeth.

Chester et al. disclose individual bracket packages in which brackets are held in a fixed relationship to the package. The individual packages are adhered to a strip in the same orientation and the strips are placed in parallel rows in drawers. Chester et al. does not provide a carrier with a plural bracket containing recess extending downwardly from the plane of a flange that guides the package in a particular orientation on an organizer tray.

James discloses brackets in a row in a plastic container having a flange-like foot at the bottom (Fig. 3), that does not serve as guide structure. The cross-sectional view of Fig. 6 of James is not a flange or any kind of guide structure, but is rather a drawing segment transversely cut through the top surface of the structure shown in Fig. 3, for illustration purposes. The alleged "guide structure" is but a partial drawing cut from Fig. 3, which extends beyond the figure as illustrated in

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the patent. Furthermore, this segment would extend transversely, where applicant claims longitudinal edges or guide structure.

Because the references do not contain each and every element of the claims, the rejections of claims 16, 17 and 20 under 35 U.S.C. §102(b) should be withdrawn.

35 U.S.C. §103(a):

While no single reference anticipates any of the independent claims 7, 16 or 29, there is no combination of references that renders the inventions of the independent claims or any of the dependent claims obvious. To construct applicant's claimed invention by assembling parts from different references, one would need motivation to produce the entire claimed combination from someplace in the prior art. Only applicant provides an orthodontic appliance delivery system and method by which appliances are transferred from bulk storage to individual case setup without the need for such reorientation. Without applicant's teachings, assembly of the features to produce applicant's invention would be totally arbitrary, and accordingly could not be considered obvious.

Accordingly, the independent claims and their dependent claims are patentable and should be allowed. An early allowance is therefore respectfully requested.

If any additional fees are necessary to complete this communication the Commissioner is hereby authorized to charge same to Deposit Account No. 23-3000.

Respectfully submitted,

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